

## ABSTRACTS

(This section of the JOURNAL is published in collaboration with the two abstracting journals, *Abstracts of World Medicine*, and *Abstracts of World Surgery, Obstetrics, and Gynaecology*, published by the British Medical Association. The abstracts are divided into the following sections: syphilis (general, therapeutic, pathology); gonorrhœa (general, therapeutic, pathology); other venereal disease conditions; public health. After each subsection of abstracts follows a list of articles that have been noted but not abstracted. All subsections will not necessarily be represented in each issue.)

### SYPHILIS (General)

**Must Syphilis Still Serve?** ELLERY, R. S. (1947). *Med. J. Aust.*, 1, 391.

The author reviews some of the evidence upon which the claims that Henry VIII was syphilitic have been based. [This is an entertaining paper, but presents no new evidence in a controversy that is inherently insusceptible of solution. Argument on circumstantial grounds as to whether historical personages were afflicted with syphilis is an unprofitable field of medical history. The author's florid style may be judged by his reference to "... the dark hours spent in love's dalliance, tracing the naked outlines of a girl's warm flesh in the sentient atmosphere of love's euphoria".] N. Howard-Jones

**Acquired Syphilis in Children.** MURRELL, M., and GRAY, M. S. (1947). *Brit. med. J.*, 2, 206.

Acquired syphilis in 2 male and 4 female children is described. Five were between the ages of  $3\frac{1}{2}$  and  $8\frac{1}{2}$ , and one girl was 16 years old. The source of the infection was traced to the parents in 3 and to an Indian servant in one case; one child, prone to sucking things, was known to have found a condom in the park. The infection of the girl of 16 was believed to have arisen from an infant nephew with acute infectious congenital syphilis. An adult stepsister also contracted syphilis from the same child, both of whose parents were also proved to be suffering from the disease.

Of the 6 cases, 5 showed malaise, 1 headache, 5 sore throat, 1 pain in the limbs, 5 a rash, 1 alopecia, 2 sores in the mouth, 4 condylomata lata, and 6 adenitis. All cases had reached the secondary stage before recognition and had strongly positive blood Wassermann and Kahn reactions. *Treponema pallidum* was demonstrated in 4. It is concluded that it is important to examine not only sexual partners but also all close contacts of patients with infectious congenital and acquired syphilis.

R. R. Willcox

### SYPHILIS (Therapeutic)

**The Local Chemical Prophylaxis of Experimental Syphilis with Phenyl Arsenoxides Incorporated in Ointments and in Soap.** EAGLE, H., MAGNUSON, H. J., and FLEISCHMAN, R. (1947). *Amer. J. Syph.*, 31, 257.

These workers have previously shown that solutions of various phenyl arsenoxides in propylene glycol when applied to a skin incision previously inoculated with *Treponema pallidum* can prevent rabbits from developing syphilis. In this study they show that ointments compounded with these arsenicals are not so effective as are the solutions in propylene glycol, whether the ointments are made up from the finely divided dry arsenical suspended in a fatty base or from arsenical solutions homogenized in an aqueous one; only occasionally were more than three-quarters of the animals protected, even when the arsenical concentration given was as high as 0.4%. Rather better results were achieved when the arsenicals were dissolved in a soap solution (5% potassium oleate in water). Results compared favourably with those obtained with the same compound in propylene glycol. It is surprising to learn that the soap solution alone was wholly inert.

G. L. M. McElligott

**Concurrent Treatment of Experimental Syphilis with Fever and Mapharsen.** CARPENTER, C. M., BOAK, R. A., DORN, F. L. (1947). *Amer. J. Syph.*, 31, 498.

This is a detailed description of an investigation into the effect of fever on the therapeutic efficacy of "mapharsen" in the treatment of experimental syphilis in rabbits. Methods and materials used, and the results obtained from ten different treatment schedules in a total of 727 rabbits, are presented. The study showed that concurrent treatment with sub-curative doses of fever and of mapharsen was far superior to treatment with fever or mapharsen alone. This heightened therapeutic effect may be due to a cumulative or a synergistic effect, or possibly to a combination of both factors.

Some initial reports of a similar investigation in man have been published, but this study in human beings is not yet complete.

S. M. Laird

**The Massive Intravenous Penicillin Therapy of Early Syphilis.** PETERS, E. E., and BARTON, R. L. (1947). *Amer. J. Syph.*, 31, 522.

Therapeutic blood levels can be achieved rapidly and maintained easily by the continuous intravenous administration of penicillin. The authors have given massive doses of penicillin, by continuous intravenous drip over a period of 24 hours, to 275 patients suffering from primary or secondary syphilis. The patients, who were grouped by sex, age, race, and stage of disease, were treated between March, 1945, and May, 1946, and were observed after treatment for a minimum of 6 months and a maximum of 19 months. The sodium penicillin was dissolved in 1 litre of isotonic sodium chloride solution, and heparin was injected subcutaneously in an attempt to reduce the frequency of thrombophlebitis. By this technique, 129 and 113 patients received respectively 10 and 25 million units of penicillin in 24 hours by continuous intravenous drip; intermediate total doses were given to other small groups of patients. Estimations showed that high levels of penicillin in the blood were reached rapidly and readily maintained; in addition, significant quantities of penicillin were demonstrated in the cerebrospinal fluid in a majority of cases. Reactions to treatment were frequent but usually mild and included fever, gastro-intestinal upset, thrombophlebitis, temporary renal disturbance, epistaxis, and pruritus. The results were very poor, and the authors conclude that such treatment is grossly inadequate. This failure of high dosage maintained for only a short period emphasizes once again the importance of the duration of therapy in various treatment schedules for syphilis.

S. M. Laird

**The Intensive Treatment of Early Syphilis in Nine to Fifteen Weeks with Triweekly Injections of Mapharsen (Oxophenarsine Hydrochloride) and Concomitant Weekly Injections of Bismuth: An Analysis of the Results in 110 Cases.** DEXTER, D. D. (1947). *Amer. J. Syph.*, 31, 533.

The 110 patients were selected from some 560 cases of early syphilis receiving "mapharsen" with or without bismuth between October, 1941, and September, 1945. The patients had primary or secondary syphilis which had not previously been treated, and received approximately 30 tri-weekly injections of mapharsen and 10 weekly injections of bismuth subsalicylate within 9 to 15 weeks. The average period of observation was 14 months, but 28 patients remained under observation for 2 years after completing treatment. Seventy-six patients (69%) became and/or remained serum-negative, and a further 29 showed a falling titre on serological testing of the blood at final observation. Five patients, all originally suffering from secondary syphilis, were classified as treatment failures, but 4 of these may well have had a re-infection. Thus 95% of all patients responded well to this treatment schedule.

S. M. Laird

**The Toxic Effects of Ten Daily Injections of Mapharside Combined with Penicillin in the Treatment of Early Syphilis.** WILLCOX, R. R. (1947). *J. R. Army med. Cps.*, 89, 49.

Treatment for early syphilis comprising 600 mg. of "mapharside" (arsenoxide) in 10 daily intravenous injections of 0.06 g. and 2,400,000 units of penicillin in

60 3-hourly injections of 40,000 units was given to about 1,350 military patients. The toxic effects appear to have been few and rarely severe. A Herxheimer pyrexial reaction was noted in 70 patients. Acute encephalopathy occurred in 4 cases, 1 of which was fatal in spite of treatment with BAL. Cutaneous reactions were rare; 4 examples of ninth-day erythema were noted, and 2 cases of urticaria probably due to penicillin while 3 patients developed a reaction of seborrhœic type. No instance of agranulocytosis or of aplastic anaemia occurred, but the precaution of suspending arsenical therapy was taken whenever the total white cell count had fallen below 4,000 per c.mm. or when the neutrophil cells were found to be below 40%, as they were in 30 cases. No case of true toxic jaundice was noted, although 2 cases of the so-called syringe-transmitted variety were seen. Pyrexia developing 48 hours or later after the beginning of treatment—secondary fever—occurred in 44 cases and necessitated a modified treatment in 24.

[The article does not contain any detailed clinical report of the toxic reactions.]

V. E. Lloyd

**An Investigation into the Possible Effects of Intramuscular Injections of Bismuth on the Penicillin Content of the Blood Serum when Given Concurrently with Penicillin in the Treatment of Early Syphilis.** EAMES, J. W., and ARCHER, G. T. L. (1947). *J. R. Army med. Cps.*, 89, 57.

The potency of penicillin in solution may be affected adversely by various agents, including heavy metals. Although penicillin has been extensively used in the treatment of syphilis in conjunction with arsenical and bismuth remedies, there appears to have been no attempt, until that which forms the basis of this article, to ascertain the effect, if any, of concurrent bismuth therapy on the *in vivo* potency of penicillin.

The authors have taken the opportunity of making appropriate investigations of the blood level of penicillin in 25 cases of syphilis treated with three injections of neoarsphenamine and three of a bismuth compound (a 20% suspension of bismuth metal in isotonic glucose solution) during the 10-day schedule of penicillin treatment. Samples of blood were taken from each patient on the first day and on the third, seventh, and tenth days of the combined treatment. A control group of 25 cases receiving the same dose of penicillin but without the addition of an arsenical or of bismuth were similarly investigated. The clinical results, as judged by the healing of the lesions, were substantially the same in the two groups.

The authors consider, after due allowance for individual variations, that the results of serum penicillin estimations in patients who received bismuth and penicillin did not differ from those in patients receiving penicillin alone, and that the presence of bismuth does not appreciably inactivate the penicillin in the blood serum.

V. E. Lloyd

**Penicillin in the Treatment of Early Syphilis: 429 Patients Treated with 1,200,000 Units in 90 Hours.** CRAIG, R. M., SCHWEMLEIN, G. X., BARTON, R. L., BAUER, T. J., and BUNDESEN, H. N. (1947). *Ann. intern. Med.*, 27, 225.

This paper concerns the follow-up of 429 patients treated at the Chicago Intensive Treatment Centre during 1944 with a total dose of 1.2 million units of sodium penicillin given in thirty 3-hourly injections of 40,000 units over 3½ days. The group comprised 362 negro and 66 white patients, of which 249 were male and 180 female, and ages ranged between 4 and 56 years:

47 had serum-negative primary, 104 serum-positive primary, and 216 secondary syphilis, while 62 had some form of relapse after previous treatments. All had dark-field positive lesions. A preliminary lumbar puncture was performed on 419, and in 5 there were abnormal findings in the cerebrospinal fluid, 2 of which were regarded as evidence of neurorecurrence.

Of the 429 patients, 298 were studied for 6, 269 for 12, and 207 for 15 months. In 85 (19.8%) it was considered that treatment had failed at the end of this time. Of these, 38 had relapses in the secondary stage, 14 primary progressing to secondary syphilis, and 13 serological relapses; 8 were serum-resistant at 12 months, 5 had a relapse in the primary stage, and 2 had neuro-recurrences; 5 others were considered to have a re-infection. While under treatment 56.2% developed primary fever and 27.5% a secondary fever. Of 382 patients originally serum-positive, 230 became serum-negative in an average of 92 days for primary, 152 days for secondary, and longer for relapsing syphilis. These results are better than those in two other series in which the authors employed 600,000 units of penicillin over 7½ days or 300,000 units combined with 320 mg. of "mapharsen" (arsenoxide) over the same time, and compare favourably with the results of giving 1.2 million units over 7½ days.

[The dosage employed was that suggested for the earlier research on the action of penicillin in syphilis and is not comparable with that at present employed.]

R. R. Willcox

**Ambulatory Intensive Treatment of Syphilis with Calcium Penicillin in Oil and Wax. (Second Report.)** KOCH, R. A. (1947). *Urol. Cutan. Rev.*, 51, 569.

Twice-daily injections of 150,000 units of penicillin in oil and beeswax (Romansky formula) to a total of 3 million units in 10 days were given to 279 patients suffering from early syphilis. Eighteen displayed some reactions, usually controlled by benadryl, though in 3 the penicillin was discontinued; 238 patients completed treatment. Of these, 169 were male and 69 female; 140 had primary syphilis (37 serum-negative) and 98 secondary syphilis; 57 were not studied further, and in the remaining 181 cases observed for from 1 to 18 months the failure rate was 10.5%, including 7 clinical and 11 serological relapses and 1 case of serum-resistance at 1 year. In 136 cases observed for from 3 to 18 months the relapse rate was 14%.

[The author's first report 10 months previously showed a failure rate of only 4%. It seems likely that if cases observed for a year or longer are considered the failure rate will be much higher and that the 10.5% quoted again in the summary will be no less an underestimate than the original figure.]

R. R. Willcox

**Considerations with Respect to the Application in Private Practice of Penicillin Therapy for Early Syphilis.** HAZEL, O. G. (1947). *J. vener. Dis. Inform.*, 28, 103.

The intensive methods used in the treatment of early syphilis during recent years have involved admission of the patient to hospital, the schedules with aqueous solutions of penicillin being no exception to this rule. The encouraging reports of the hospital trial of a mixture of penicillin in beeswax and peanut oil led the author to adopt the following scheme of out-patient treatment for early syphilis in his private practice. Ten daily injections of 300,000 units of oily penicillin were given with an initial injection of "mapharsen" (0.04 g. for women and 0.06 g. for men); a similar dose of mapharsen was given

every other day for five doses and thereafter once weekly for a total of 20 injections, and treatment was completed by 5 weekly injections of bismuth subtartrate. The results obtained at follow-up examination some 6 months after completion of treatment were considered satisfactory. All 5 serum-negative primary and 7 serum-positive primary cases were negative serologically (blood and spinal fluid) and clinically, and 12 of the 14 secondary cases and 2 of the 10 cases of early latent syphilis were negative. One case of secondary syphilis was re-treated for serological relapse within the 6-month period of observation. The need for careful observation to detect clinical and serological relapse is stressed, and the possibility of achieving equally good results by using larger doses of penicillin without arsenic and bismuth is indicated.

S. M. Laird

**Penicillin Therapy for Syphilis in Pregnancy.** SPEISER, M., FLAUM, G., MOON-ADAMS, D., and THOMAS, E. W. (1947). *J. vener. Dis. Inform.*, 28, 108.

The ideal antisypilitic treatment of the pregnant woman should be free from serious toxic effects, and should prevent the transmission of infection from mother to baby, cure the maternal syphilis, cure the child *in utero* in cases of early infectious maternal syphilis beyond the sixteenth week of pregnancy when syphilis may already have been transmitted to the foetus, and provide adequate therapy in a short period of time. The authors believe that adequate penicillin therapy fulfils these requirements best; they reach this conclusion from a study of the outcome of 261 pregnancies in 259 syphilitic mothers so treated. Only 1.5% resulted in definitely syphilitic infants; a further 3.4% infants were possibly syphilitic. The remaining 95% of pregnancies resulted in infants who, after a minimum post-natal follow-up of 16 weeks, were free from clinical, serological, and radiological evidence of syphilis. Healthy babies were obtained when treatment was started in the last 8 weeks of pregnancy, and in some instances just before delivery. The total dosage of penicillin must be over 2,400,000 units; 4 million units (40,000 units 3-hourly for 100 doses) is recommended. Relapse may occur even when higher dosage is used, but the incidence is low and congenital syphilis may be prevented by re-treatment. The authors consider that women who have responded satisfactorily to penicillin therapy before pregnancy need not be given further treatment during a subsequent pregnancy, although they need to be closely observed clinically and serologically throughout the antenatal period to detect evidence of relapse at the earliest stage.

[The implications arising from the results obtained in this detailed study are of great importance and the full report should be consulted. Rules hitherto accepted governing the treatment of the syphilitic mother and the prevention of prenatal syphilis may require modification should the initial results of this study be confirmed by more prolonged observation of a still larger series of cases.]

S. M. Laird

**Treatment of Syphilitic Pregnant Woman with Penicillin in Oil-Beeswax: A Comparison with Results Obtained using Aqueous Sodium Penicillin.** INGRAHAM, N. R., ROSE, E. K., BEERMAN, H., WAMMOCK, V. S., STOKES, J. H., GYORGY, P. (1947). *J. vener. Dis. Inform.*, 28, 155.

Since 1943 the authors have studied the effect of penicillin on syphilitic pregnant women and their children. This study expands their previous reports on aqueous penicillin and compares the results with those

obtained by penicillin in a delayed-action vehicle—peanut oil-beeswax.

A series of 46 pregnant women, mostly with early syphilis, were treated with amorphous calcium penicillin in peanut oil-beeswax. Treatment began at various stages of pregnancy and each case received 4.8 million units intramuscularly over a period of 9 days. A single injection was given daily of 150,000 units on the first day, 450,000 units on the second day, and 600,000 units for the succeeding 7 days. One woman died at the time of delivery. Of the remaining 45, 19 were observed for less than 6 months and 37 for less than 1 year. The number of infants delivered was 48. Of these, 41 lived but 2 were syphilitic—a failure rate of 4.9%. The clinical relapse rate for the series was 4.4%. This might have been higher if the period of observation had been longer.

An earlier series of 92 mothers had been treated with 1.2 or 2.4 million units of aqueous penicillin at 3- to 4-hour intervals for 8 to 10 days. All but 13 were followed for periods of 6 months to more than 2 years. Of the 94 infants delivered, 89 lived. Only 2 of these were diseased—a failure rate of 2.2%. The clinical relapse rate was 5.4%, for 5 women developed recurring infectious lesions. About 28% of the mothers became serum-negative at the time of delivery, in comparison with only 9% in the oil-beeswax series. Considering all factors, however, the serological responses in the two groups appear similar, but they are somewhat slower when penicillin in oil-beeswax is used.

Stillbirths and neonatal deaths were more frequent in the oil-beeswax series, possibly because of the inability to sustain blood and tissue levels of the penicillin high enough to produce a satisfactory concentration in the foetal tissues. The authors recommend a maximal rather than a minimal therapy for both mother and child, and a minimal total dose of 2.4 million units of aqueous penicillin.

Analysis of the three tables of statistics indicates that for symptomatic early syphilis in late pregnancy, when the foetus is already infected, the oil-beeswax procedure is less effective than aqueous penicillin. With this reservation, however, the authors conclude that the overall results of both procedures are approximately equivalent.

T. Anwyl-Davies

#### The Treatment of Syphilis of the Central Nervous System with Penicillin. HEYMAN, A. (1947). *Amer. J. med. Sci.*, 213, 661.

The clinical results and the changes in spinal-fluid tests in 141 patients (51 white and 90 negro) with various types of neurosyphilis are assessed after treatment with penicillin and observation subsequently for from 6 to 19 months. The results are analysed in relation to penicillin dosage, the duration and severity of neurosyphilis, and the degree and type of spinal-fluid abnormalities. The series contains 4 cases of acute meningitis; 19 early (2 to 3 years), 74 late, and 5 congenital cases of asymptomatic neurosyphilis; 26 cases of meningovascular syphilis; 4 cases of tabes dorsalis; 7 of general paresis; and 2 of optic-nerve atrophy.

The effect of penicillin treatment on the spinal fluid is reported in some detail. The occurrence of pleocytosis within 6 to 12 months in 4 of 10 patients treated with 1.2 million units shows this dosage to be inadequate. Of 63 patients who received from 2 to 3 million units, 7 relapsed with spinal-fluid changes (4 in 6 months, 1 at 9 months, and 1 at 12 months). To the most recent group, of 63 patients, 4 million units were given; the

surveillance period has been of 6 to 8 months' duration only, but 2 relapses have already been recorded. The author considers a dosage of less than 4 million units to be unsatisfactory.

The duration of syphilis bears a close relation to the results of penicillin therapy. In half the patients with early neurosyphilis (less than 5 years' duration)—usually cases of asymptomatic neuro-recurrence or meningitis—the spinal fluid became normal. Among the 118 who had late neurosyphilis the spinal fluid became normal in only 6. There did not appear to be any correlation between persistent spinal-fluid abnormalities and previous arsenical or bismuth treatment.

The significance of a persistent elevation of the protein in the spinal fluid after penicillin therapy in 12 patients is discussed. All patients had neurosyphilis of long duration, and half of them had meningo-vascular neurosyphilis, tabes, or paresis. The author notes that the high protein level in cases of meningitis and early neurosyphilis falls rapidly after penicillin or arsenical therapy. In this series none of the patients with meningo-vascular neurosyphilis, paresis, tabes, or optic-nerve atrophy had a normal spinal fluid after treatment. This finding is in accordance with those of other workers. After fever therapy for neurosyphilis a high protein content has been reported to persist for as long as 4 years.

It is suggested that the persistently high protein level in the spinal fluid in the cases of parenchymatous syphilis may represent a severe degree of destruction in the central nervous system and does not necessarily indicate that penicillin therapy has been ineffective. On the other hand, an increase in the number of cells in the fluid is regarded as the most accurate index of failure.

V. E. Lloyd

#### Rat-bite Fever in the Treatment of General Paresis. (Sodoku in der Paralysebehandlung.) BRUNOLD, H. (1947). *Schweiz. med. Wschr.*, 77, 919.

The author treated with sodoku (rat-bite fever) 50 cases of general paresis which had failed to respond to malaria. The technique is simple. The blood of an infected mouse, diluted with saline, is injected. A local inflammatory reaction, rarely an ulcer, develops within a fortnight. After an incubation period of 5 to 13 days (7 on the average) the temperature rises gradually to 41° C. and subsides gradually after 2 to 5 days. Similar attacks follow after 3 to 16 days. After 6 attacks the infection is terminated with an injection of arsphenamine.

The average period of survival after treatment is at least 9 years, which compares favourably with the results of malaria treatment. In approximately 50% of the cases the cerebrospinal fluid becomes normal. Seven out of 50 patients recovered completely; another 9 made a "social" recovery; 4 could be discharged from hospital but remained "social" invalids. Some improvement was noticed in 13 patients who did not become fit for discharge. In view of the selection of cases the results are surprisingly favourable.

E. Guttmann

#### Penicillin in Cardiovascular Syphilis. Early Reactions to Administration. TUCKER, H. A., and FARMER, T. W. (1947). *Arch. intern. Med.*, 80, 322.

Therapeutic shock during administration of penicillin in cardiovascular syphilis is not clearly understood because not enough material has yet been recorded. The authors believe that the dangers of severe untoward reactions may have been unduly emphasized. Of 22 patients, 5 had febrile bouts and 2 experienced a worsening of anginal pain. No interruption of the course of

treatment was deemed necessary. In a further series of 4 cases neither febrile Herxheimer reactions nor untoward symptoms referable to the cardiovascular system were encountered.

G. F. Walker

**Keratosis Follicularis Acneiformis Abscedens due to Neoarsphenamine.** (Keratosis follicularis (arsenobenzoica) acneiformis abscedens.) KLEINE-NATROP, H. E. (1947). *Arch. Derm. Syph., Wien*, 186, 353.

A patient suffering from a gummatous condition over his sacrum is reported to have developed a peculiar dermatitis at the beginning of a second course of neoarsphenamine. At first a generalized dry erythema developed. The injections were stopped and sulphonamide pastes, among other things, were used for local treatment. The dermatitis was clearing well, when a folliculitis with comedones appeared on shoulder girdle, chest, and abdomen. Treatment now consisted of the application of a sulphonamide paste, a mild keratolytic, and ultra-violet irradiation. Some abscess formation with fever was observed. Eventually the inflammatory reaction subsided but a follicular hyperkeratosis remained. A trial with a small dose of neoarsphenamine (0.075 g.) was followed 4 weeks later by reappearance of a similar dermatitis, which now also affected the perigenital region and the axillae. The fully developed condition had the appearance of perifolliculitis (Hoffmann) on the hairy parts, and of acne conglobata on the less hairy parts of the affected areas. The condition is called keratosis follicularis acneiformis abscedens and is believed to be caused by sensitization to neoarsphenamine. The author thinks that the hyperkeratosis was primary and became secondarily infected afterwards.

G. W. Csonka

**The Use of BAL (2, 3-Dimercaptopropanol) in the Treatment of Agranulocytosis following Intensive Arsenotherapy for Syphilis.** HOLLEY, H. L. (1947). *Ann. intern. Med.*, 27, 231.

Twelve cases of agranulocytosis during courses of arsenical drugs for syphilis began with general malaise, headache, fever, and sore throat. Treatment was by BAL in 10% solution, 1.5 ml. of which was given by injection every 6 hours for 48 hours, followed by 2 ml. daily for 6 doses. General supportive measures on conventional lines with dextrose, pentnucleotide, liver, etc., were given in all cases, but even so it is clear from these records that BAL exerts a specific beneficial effect in toxic reactions due to arsenic.

G. F. Walker

**Clinical Uses of 2,3-Dimercaptopropanol (BAL). IV. Pharmacologic Observations on BAL by Intramuscular Injection in Man.** MODEL, W., GOLD, H., and CATTELL, MCK. (1946). *J. clin. Invest.*, 25, 480.

This paper describes toxic effects following single doses of 3 to 8 mg. of "BAL" per kilo administered to 9 human subjects with secondary or tertiary syphilis. Such effects include paraesthesiae (burning or tingling of the nose, eyes, mouth, and skin), sweating and sense of warmth, pain in the limbs, jaws, abdomen, and head, lacrimation, blepharospasm, salivation, vomiting, unrest, apprehension, weakness, and fatigue. The heart rate is accelerated and both systolic and diastolic blood pressures are usually increased. The minimal toxic dose lies between 3 and 5 mg. per kilo, and a single dose of 8 mg. gives marked symptoms. The effects of doses up to 8 mg. per kilo are completely reversible; the reactions lasting

only an hour or two. Doses of 5 mg. per kilo may be given at intervals of 3 hours during the course of one day without cumulative effects.

G. R. Cameron

## SYPHILIS (Pathology)

**Comparison of the Spirocheticidal Activity of Arsphenamines and Phenarsines (Arsenoxides) in Experimental Syphilis.** PROBEY, T. F. (1947). *Publ. Hlth. Rep., Wash.*, 62, 1041.

This report is an addition to previous observations by the same author concerning the curative efficiency of arsphenamines and arsenoxides. The efficiency is judged on the minimum single doses required to cure rabbit syphilis as shown by prolonged observation and tissue transfer. With six lots of sulpharsphenamine (arsenic content 21%) 71% of 38 infected rabbits were cured by single injections of 20 mg. per kilo, 92.3% of 39 rabbits by 30 mg. per kilo, and all of 37 rabbits by 40 mg. per kilo. Control studies with neoarsphenamine (arsenic content 19.2%) showed that 35.5% of 126 rabbits tested were cured with 20 mg. per kilo, 75.2% of 141 with 30 mg., and 92% of 88 animals with 40 mg. per kilo.

With dichlorophenarsine hydrochloride (26.3% arsenic), 46.9% of 32 rabbits were cured with 4 mg. per kilo, 74.3% of 35 rabbits with 6 mg., 88.2% of 34 animals with 8 mg., and 86.5% of 37 with 10 mg. per kilo. With "mapharsen," oxophenarsine hydrochloride (31.3% arsenic), 14.3% of 6 rabbits were cured by 2 mg., 41.4% of 29 with 4 mg., 56.7% of 30 with 6 mg., 96.8% of 31 with 8 mg., and all of 4 rabbits treated with 10 mg. per kilo.

Toxicity experiments in rabbits showed that the maximum tolerated dose (at least 60% of animals surviving) was 200 mg. per kilo for neoarsphenamine, 300 mg. per kilo for sulpharsphenamine, and 10 mg. per kilo for both the arsenoxides. Results in general indicate that sulpharsphenamines are slightly more spirocheticidal than the neoarsphenamines and that there is little difference in the efficiency of the two arsenoxides tested. The latter are four to five times by weight, and three times by arsenic content, more effective than the arsphenamines.

R. R. Willcox

**Serological Tests for Syphilis in Treated *Plasmodium falciparum* Malaria.** NELSON, M. G. (1947). *Trans. R. Soc. trop. Med. Hyg.*, 41, 127.

The author, working on the Gold Coast, performed serological tests for syphilis on 100 European patients soon after the onset of *Plasmodium falciparum* malaria. Positive reactions to the flocculation tests of Ide, Meinicke, and Kahn were obtained in 2, 4, and 2% respectively, while there were doubtful reactions to the Ide test in 1%, and to the Kahn test in 2%. Of 100 patients similarly examined on the tenth day of the disease positive results were obtained in 2, 4, and 2% respectively; there were doubtful reactions to the Meinicke and to the Kahn tests in 1%. Fifty patients were examined on both days and there were 7 positive and 2 doubtful reactions to all techniques on each occasion. The Kahn verification test was found difficult to apply and not helpful.

These three tests showed satisfactory correlation in the case of Europeans with syphilis without malaria, but of 200 apparently healthy Africans without actual clinical evidence of syphilis or yaws 28% gave a positive reaction to the Ide test, 48.5% a positive reaction to the Meinicke test, and 37% a positive reaction to the Kahn test. The marked sensitivity of the Meinicke test is thus affirmed

and contrasts with the low incidence of positive results in the white patients with malaria. It is concluded that malarial false-positive reactions do not persist long after the period of clinical activity—that is, for 2 months in untreated and 1 month in treated cases.

[Complement-fixation procedures were not available to the Services in West Africa on account of technical difficulties. The low incidence of false-positive reactions with flocculation procedures, which was approximately 3% in this series, contrasts with the experience of Elmes and Findlay (1945), who, working in the same area, had 23 false-positive reactions with the Kahn test and 4 with the Ide test in about 80 patients studied.]

R. R. Willcox

**False Positive Serum Tests for Syphilis.** (Les fausses réactions sérologiques de la syphilis.) VISSIAN, L. (1947). *Ann. Derm. Syph., Paris*, 7, 348.

The author classifies false-positive serological results into three categories: (1) those due to faults in technique; (2) false-positive syphiloid reactions in certain disease groups; (3) "true" biological false-positive reactions. In Group 2, false-positive reactions are found in patients suffering from diseases caused by organisms allied to *Treponema pallidum*. Positive results have been obtained with great frequency in diseases of this type. Yaws and dourine give positive serum tests for syphilis in every case. Relapsing fever (*Spirocheta obermeieri*) and sodoku (*Sp. japonica*) often give positive results, and the same is true of spirilloses such as phagedenic ulcer of hot countries (86% of positive Wassermann reactions in 106 cases). False-positive results may also be obtained in the various types of leishmaniasis and in trypanosomiasis. Positive results have been reported during the febrile phase of Weil's disease and of infective hepatitis.

Biological false-positive reactions are known to occur in malaria, returning to negative up to 42 days after an attack. Of flocculation tests, that of Hinton is the least liable to give false-positive results in malaria. Other diseases and conditions noted as giving false-positive reactions are atypical pneumonias, nasopharyngitis, scarlatina, infectious mononucleosis, vaccination against smallpox, leprosy, cutaneous tuberculosis, lupus erythematosus, lead poisoning, prolonged chloroform anaesthesia, administration of sulphonamides, paroxysmal hæmoglobinuria, hæmolytic icterus, severe anæmias, and leukæmias.

Flocculation tests are most likely to yield false-positive reactions, and in suspect cases quantitative tests should be repeated over at least 3 months before a decision is made.

[There is a useful bibliography.] James Marshall

**Syphiloma of the Neck of the Uterus.** (Sul sifiloma del collo dell'utero.) FERRARI, A. V. (1947). *Dermosifilograf*, 122, 207.

The author points out the need for clinical and laboratory examinations for syphilis whenever there are erosions or ulcerations of the cervical mucosa. He describes 6 cases personally observed, some of which demonstrate how easily this lesion may escape observation. It is concluded that: (1) syphiloma of the cervix is not so rare as has been thought; (2) diagnosis is not easy, since syphiloma of the cervix does not always cause subjective symptoms and may be confounded with other lesions; (3) a search for enlarged pelvic lymph nodes, the usual lymphatic reaction in this particular type of syphilitic lesion, may help diagnosis. Kate Winkler

## GONORRHOEA (General)

**Diagnosis and Penicillin Treatment of Gonococcal Cervical Metritis in the Puerperium.** (Les métrites cervicales gonococciques au cours de la puerperalité (leur dépistage et leur traitement par la pénicilline).) MAYER, M., DELAYRE, —, and LANVIN, —. (1947). *Pr. méd.*, 55, 554.

Leucorrhœa in pregnancy ought never to be disregarded. By routine examination the authors have discovered gonococcal infection frequently in such cases. The gonococcus is more readily isolated during pregnancy, as the pregnancy appears to activate the infection and increase the virulence of the organism. Other organisms may be associated, particularly *Trichomonas*. Latent gonococcal infection of the cervix is often the cause of puerperal infection.

All such cases should be treated immediately the diagnosis is made, regardless of the stage of pregnancy, since treatment with penicillin has no adverse effect upon the pregnancy. The authors employ 200,000 units of penicillin a day in 3-hourly doses intramuscularly with the addition of local treatment, which they regard as essential. They inject 5 ml. of a solution containing 50,000 units of penicillin directly into the cervix and under the mucous membrane of the cervix and the canal. These local injections are given on alternate days and the patient is kept in bed. Treatment is continued until clinical signs of the disease have disappeared and two repeated cultures are negative.

When the infection is first discovered during labour or in the early days of the puerperium, the general treatment is given, but the local injections are omitted until the sixth day. All patients during pregnancy have a further course of treatment in the puerperium even if apparently cured, since dormant infection so readily lights up then.

L. W. Lauste

## GONORRHOEA (Therapeutic)

**Reiter's Syndrome: A Report of Two Cases with Response in one to Large Doses of Mapharsen.** KHOURY, E. N. (1947). *J. Urol.*, 58, 268.

Since Reiter first described the syndrome in 1916, 68 cases have been recorded. Two more are added, and the author discusses the symptomatology, which consists of abacterial urethro-cystitis, conjunctivitis, and arthritis going on to pyuria, ulceration of the skin and the mucosæ of penis and mouth, and, in the more severe cases, clouding of the cornea with keratitis. The urinary findings are very similar to those in the abacterial pyuria described by Moore; this similarity suggested the use of "mapharsen." The absence of an infecting organism in any of the lesions is noted, and the need for investigation for filterable viruses is stressed.

The 2 case reports are typical; the first case was mild and the second moderately severe. Both began with abacterial urethritis and progressed to affection of joints and conjunctivæ; both patients had been treated unsuccessfully with sulphathiazole. The first case cleared up spontaneously with meatotomy and "non-specific therapy"; there was no recurrence in 2 years. Treatment in the second case consisted of urethral massage and the passage of sounds, then prostatic massage, the bladder being filled with 1 in 10,000 potassium permanganate. The urinary symptoms became more marked, and bilateral conjunctivitis and arthritis of the left ankle-joint developed. The patient was then

admitted to hospital and fully investigated, the only abnormalities found being sterile pyuria, occult hæmaturia, a leucocytosis of 15,900, and an erythrocyte sedimentation rate of 32 mm. after 1 hour. With non-specific treatment the urethral discharge, conjunctivitis, and arthritis cleared up, but the frequency, hæmaturia, dysuria, and joint stiffness remained. Cystoscopy revealed a diffuse cystitis with gross oedema. The patient was discharged and observed for 2 months, the symptoms remaining unrelieved; a course of mapharsen was then started; the dose was 0.06 g. intravenously twice a week for 3 weeks then weekly for 4 weeks. The symptoms became milder after 3 days and disappeared in 2 weeks; after 5 weeks the urine was clear and normal. There was no recurrence in the succeeding 3 months.

[Experience with mapharsen in the treatment of abacterial cystitis should encourage its use in this condition because there is enough clinical evidence to suggest at least an allied, if not an identical, fundamental pathology.]

Hugh R. Arthur

### GONORRHOEA (Pathology)

**Urologic and Ophthalmologic Observations in Two Cases of Reiter's Syndrome.** OLENICK, E. J., and SARGENT, J. W. (1947). *Nav. med. Bull., Wash.*, 47, 657.

Two cases of Reiter's disease are described. The first patient, when seen by the authors, had had a non-specific urethral discharge for 6 weeks which had not responded to penicillin or sulphonamides. Examination revealed only a slight prostatitis. Sitz baths and prostatic massage were given, and 9 days later a tender nodule appeared in the pendulous urethra, followed on the succeeding day by pain in the right shoulder, foot, and temporo-mandibular joint, plantar erythematous papules, and plaques on the buccal mucosa. There was also tachycardia and the temperature rose to 101° F. 38.3° C.). A sterile conjunctivitis developed on the twelfth day after admission, the erythrocyte sedimentation rate (E.S.R.) being 10 mm. in 1 hour. Within a few days symptoms of acute posterior urethritis developed, with bilateral epididymitis. [Whether the prostatic massage was continued until this time is not stated.] A catheter had also to be used on account of obstruction at the site of local tenderness. The conjunctivitis responded quickly to local application of penicillin and 1,200,000 units was also administered systemically with some improvement, though the E.S.R. rose to 26 mm. in 1 hour. Forty days after admission there was a relapse of the conjunctivitis and signs of corneal irritation were observed under the slit lamp. The patient was discharged after 76 days in hospital.

The second patient had noticed a urethral discharge 2 weeks previously, when, though examination for gonococci was negative, he was given 200,000 units of penicillin in oil-beeswax. Five days later he developed bilateral conjunctivitis and 5 days later still a painful swelling of the left foot, and subsequently of the right foot. A similar episode had occurred 2½ years before. He was given 40,000 units of penicillin 3-hourly for 3 weeks, sulphadiazine, salicylates, and also colchicine and "neocinchophen" on account of a slightly raised blood uric-acid level of 6.52 mg. per 100 ml. The E.S.R. was not raised in this case, which was complicated after 4 weeks by a cellulitis and lymphangitis of the right ankle. All drugs, which had had little effect on the urethritis or conjunctivitis, were discontinued on account of pruritus

and urticaria and the patient slowly recovered after 5½ months in hospital. During recovery it was presumed that there was a depressed lacrimal gland function in one eye, as determined by filter paper test.

[These findings are in accord with those in the large number of cases now reported in Britain.]

R. R. Willcox

**An Evaluation of the Criteria of Diagnosis and Cure of Gonorrhea in the Female.** KING, A. G. (1947). *Amer. J. Obstet. Gynec.*, 53, 829.

In this paper the difficulties in diagnosing gonorrhœa and in ensuring that the patient is cured are discussed. It was found that with a single smear 59% of the cases were missed, whereas with a single culture only 38% were missed. With the combination of a single smear and culture 28% were missed. With 2 smears at least 24 hours apart 24% were missed, and with 2 cultures 10%. With 2 smears and 2 cultures only 6% were missed, while with 3 smears, 3 cultures, and the two combined the figures were 6, 3, and 0.2% respectively. The author concludes that only with 3 smears and 3 cultures could the diagnosis of gonorrhœa be ruled out with any reasonable assurance.

The question of cure is even more difficult, for with 3 smears and 3 cultures in the 10 days after treatment 8% of the failures were undetected. To determine a cure a succession of smears and cultures should be taken over a period of 2 months. Better results are obtained if the tests are made before, during, or after a menstrual period. The author considers that stricter and more uniform criteria for diagnosis and determination of cure should be established by professional agreement. The minimum examination proposed by him to rule out gonorrhœa consists of 3 smears and 3 cultures, and to determine a cure a succession of smears and cultures over a period of 2 months after treatment.

F. J. Browne

**A Comparison of the Efficiency of Three Methods of Transportation of Gonorrheal Specimens.** PEIZER, L. R., and STEFFEN, G. I. (1947). *J. vener. Dis. Inform.*, 28, 218.

To determine the most efficient means of despatching gonorrhœal cultures to the laboratory three methods were tested.

In the most successful the authors used a rectangular bottle 2½ × 2½ × 4½ in., with a screw cap, containing a 0.6-cm. layer of plasma hæmoglobin agar on the long side of the bottle. Out of a series of 511 controlled specimens 95.16% were positive after an incubation delay of 24 hours. The colonies are easily identified as the inoculation area is large, but time is consumed in dispensing medium into screw-capped bottles. A tube 4 × ½ in. containing slanted plasma hæmoglobin agar on which the infected material was streaked was used in the second method. The tube contained about 10% carbon dioxide. This method was less effective than the first, as only 87.81% of positive results were obtained out of a series of 173 specimens. Moreover, this procedure is less practical, as incubation within 6 hours and the addition of carbon dioxide to the tubes were required. A carrying tube with chocolate gelatin Nile-blue-A agar into which the swab with infected material was inserted was not satisfactory. Only 29.03% of positive results were obtained when incubation was delayed for 24 hours, and the Nile-blue-A did not sufficiently inhibit many of the contaminating organisms.

T. Anwyl-Davies



**Gonorrheal Iritis. Experimental Production in the Rabbit.** DRELL, M. J., MILLER, C. P., and BOHNHOFF, M. (1947). *Arch. Ophthalm., Chicago*, 38, 221.

True gonococcal infection of the rabbit eye was obtained by injection of the organism into the anterior chamber. The gonococci multiplied within the eye and were recovered in culture. The affected eye resembled in appearance some cases of human gonorrheal iritis. Histologically the process was confined to the anterior segment of the eye, and consisted of an acute fibrinocellular response subsiding later to chronic inflammation. The inflammatory processes were much more severe in cases where the capsule of the lens had been injured by the penetrating needle. The authors suggest that the liberation of lens proteins, a suitable culture medium for the gonococcus, may foster the multiplication of the micro-organisms. This experimental infection was used for therapeutic trials. It was found that a large dose of penicillin, systemically injected, was required to control the process but a relatively small dose injected into the anterior chamber gave an equally good result.

This paper includes an extensive review of the literature of gonococcal iritis and of its experimental production by earlier workers. A. J. Ballantyne

#### OTHER VENEREAL DISEASE CONDITIONS

**Lymphogranuloma Venereum. A Histologic Study of the Primary Lesion, Bubonulus, and Lymph Nodes in Cases Proved by Isolation of the Virus.** SHELTON, W. H., and HEYMAN, A. (1947). *Amer. J. Path.*, 23, 653.

It is suggested that the histological appearances of biopsy specimens are sufficiently typical to enable diagnosis of lymphogranuloma venereum to be made with reasonable certainty. Their observations are based on examination of material obtained from 12 cases of the disease in which the diagnosis had been confirmed by large numbers of tests, both clinical and laboratory. In 8 of these cases absolute proof was obtained by isolation and identification of the virus from material derived from the lesions.

Seven primary lesions from the prepuce and penile shaft were examined, and the histology of all was found to be identical. One bubonulus from the prepuce and two buboes were studied, as well as a bubo from a probable recurrence and one from a healed case.

The earliest lesion is the formation of foci of large mononuclear cells in the adventitia of the small blood vessels or, in the case of the lymph nodes, in the cortex just beneath the marginal sinus. The proliferation proceeds to involve all the coats of the blood vessels and eventually obliterates their lamina by compression, and without the vascular endothelial proliferation or thrombosis usually stated to take place. Similar changes affect the sinuses and small capillaries in the lymph nodes, so that small granulomata are produced. Their centres undergo ischaemic necrosis and numerous polymorphonuclear leucocytes appear. Thus small abscesses are formed which by fusion form larger ones and, if the lesion be near the skin, as in the case of the primary lesion particularly, the epidermis breaks down and an ulcer is formed. Peripherally the abscess is surrounded by a ring of mononuclear cells, outside which a few giant cells may be found, together with plasma cells and lymphocytes in small numbers and a very occasional eosinophil leucocyte. Fibrosis was scarcely noticeable

in the acute stages, and was present only to a small degree in the node removed from the patient in whom the disease had been cured. The authors found the eosinophilic intracytoplasmic inclusions, or "gamma bodies," only after necrosis had taken place, and believe that they are merely debris phagocytosed by the mononuclear cells and bear no relation to the virus of lymphogranuloma. No elementary bodies were found.

In the differential diagnosis the authors find no similarity between lymphogranuloma venereum and syphilis, while the general pattern of the lesion and absence of acid-fast bacilli exclude tuberculosis. Chancreoid is distinguished by its vascular changes and endothelial proliferation, while granuloma inguinale contains Donovan bodies and very profuse granulations. The formation of persistent sinuses after biopsies did not occur in the authors' experience. R. B. T. Baldwin

**Elephantiasis of the Penis and Scrotum and Lymphogranuloma venereum Infection.** (In English.) COUTTS, W. E. (1946). *Dermatologica, Basel*, 93, 337.

In West Africa and other tropical areas, where lymphogranuloma venereum and filariasis exist side by side, it is common to ascribe penile and scrotal oedema to the latter rather than to the former condition. This article describes 32 cases observed between 1931 and 1945 in Chile, a country where filariasis is unknown. Twenty of these were investigated in hospital, and in the author's view lymphogranuloma venereum was proved definitely to be the cause in 18 and a probable cause in the remaining 2 cases.

The ages of the 20 patients varied from 24 to 64 years, 11 being over the age of 40. Fourteen had had inguinal adenitis a few months to 27 years previously (average 7.9 years); 1 of these patients had undergone bilateral inguinal adenectomy. Four others gave a history of previous venereal disease, and a positive Frei test was obtained in 12. In 3 the elephantiasis was concomitant with a rectal stricture, while urethrogenous forms of lymphogranuloma venereum as manifest by urethral stricture, urinary fistulae, or infiltrative lesions of the posterior urethra—were suspected in 4. Extensive proteiform skin lesions of the gluteal region and lower limbs were noted in 2, from 1 of whom a potent Frei's antigen was prepared. Eye fundus changes, as previously described in this condition, were noted in 6 patients and virus forms were found in 13 out of 14 biopsy specimens examined.

While positive serological tests for syphilis were obtained in 7 cases, this disease is not regarded as responsible for the oedema. With the intense infiltration of the scrotum spermatogenesis is impaired and azoospermia was found in 3 out of 4 patients examined. The only available treatment is plastic surgery with removal of as much as possible of the elephantoid tissue. In some cases this proved satisfactory, but in others it was followed by gradual recurrence. R. R. Willcox

**The Action of Dimethylbenzoylsulphamide on the Virus of Lymphogranuloma Venereum in the Mouse.** (Action du diméthylbenzoylsulfamide sur le virus de la lymphogranulomatose inguinale chez la souris.) LÉPINE, P., and PAVILANIS, V. (1947). *Ann. Inst. Pasteur.*, 73, 693.

Irgafen—3,4-dimethylbenzoyl-4-aminobenzene sulphamide—was found especially active in the treatment of a strain of lymphogranuloma venereum, adapted to the lungs of mice. G. M. Findlay



**Studies on the Immunological Relationships of the Psittacosis Lymphogranuloma Venereum Group of Viruses.** St. JOHN, E., and GORDON, F. B. (1947). *J. infect. Dis.*, 80, 297.

The psittacosis-lymphogranuloma venereum group of viruses includes a number of strains which form elementary bodies of similar morphology and possess common antigens. The immunological relations of several viruses of this group were tested in mice by serum-neutralization tests. Lymphogranuloma venereum, feline pneumonitis, and meningo-pneumonitis were shown to be antigenically distinct.

Scott Thomson

**Lymphogranuloma Venereum in Obstetrics.** STEER, C. M. (1947). *Amer. J. Obstet. Gynec.*, 54, 230.

In the obstetric service of the Sloane Hospital for Women, New York, there have been 8 cases of lymphogranuloma venereum among 22,500 admissions in 15 years. Two pathological syndromes of obstetrical importance are produced: (1) the ano-rectal syndrome in which there is a rectal stricture, the mass of impacted faeces above the stricture often obstructing labour; (2) the genital syndrome or esthiomene. In the former the obstruction may terminate in rupture of the rectum and death from peritonitis, while the latter may also cause dystocia because of elephantiasis or ulceration of the vulva with constriction of the introitus. In some cases, however, there may be normal pregnancy and spontaneous delivery. In others the disease may flare up during pregnancy or the rectal involvement may proceed to the point of complete intestinal obstruction. Because of these possibilities it seems wise to advise against pregnancy in a patient with active disease or rectal stricture; if pregnancy occurs, termination should be considered. [The chief danger at delivery is rupture of the rectum, and, though in many cases vaginal delivery is possible, it seems wiser to deliver all cases with rectal stricture or the genital syndrome by Caesarean section. When this cannot be done the delivery may be allowed to take place *per vaginam* if operative intervention is kept to a minimum; when intervention cannot be avoided the manipulations should be as gentle as possible.]

F. J. Browne

**Studies on Lymphogranuloma Venereum: Evaluation of the Complement Fixation Test with Lygranum.** SHAFFER, M. F., and RAKE, G. (1947). *J. Lab. clin. Med.*, 32, 1060.

One of the factors which limits the usefulness of the cutaneous reaction of Frei in the diagnosis of lymphogranuloma venereum is the scarcity of the supply of human bubo pus possessing a satisfactory specific activity and remaining free from contamination with antigen from other infective bacteria. Several preparations from tissues experimentally infected with lymphogranuloma virus, such as animal brain tissue, have been successfully employed as a substitute for bubo pus. A further improvement has been in the use of the luxuriant growth of lymphogranuloma virus on introduction into the yolk sac of the hen's egg. A preparation of this nature, known as "lygranum," can be controlled as regards concentration and is available in quantity. It has also been found useful as an indicator in the detection of complement-fixing antibodies in the blood serum from cases of lymphogranuloma venereum.

A study of the specificity of lygranum in the

complement-fixation tests was carried out. The test, when performed on sera from 149 patients with history or signs of overt lymphogranulomatous infection who had given a positive Frei reaction, produced a positive result in 147. The sera of patients with clinically active lesions usually showed higher titres than the sera of patients with healed lesions. Also, patients with a well-marked Frei reaction usually showed a higher titre. The possibility of correlation of the complement-fixation titre revealed by this test and serum-protein levels in sera from 16 lymphogranulomatous patients was investigated; maximum globulin values were obtained with the sera which showed high complement-fixation activity.

An interesting section of this article deals with the test results on sera from patients infected with certain other viruses related to that of lymphogranuloma venereum. In cases of trachoma complement fixation was obtained in 21 out of 24, in all of which the Frei test was negative. Strong complement fixation was obtained with the lygranum antigen in 7 cases of psittacosis, and in 7 patients with virus pneumonitis although the titre was considerably lower. It is pointed out that the various viruses of infections in the psittacosis-lymphogranuloma group must show a common antigenic factor which stimulates the production of antibodies responsible for cross-reactions within the group.

The article also gives details of tests carried out on sera from patients with various respiratory and non-respiratory infections, with evidence of liver damage, and with urethritis and cystitis, among whom a few weak positive results are recorded. On the results of their work the authors conclude that in nearly all patients with authentic lymphogranulomatous disease, irrespective of location, there will be positive results with the complement-fixation test as well as with the cutaneous test with lygranum. The complement-fixation test appears to be more sensitive and will detect infection in some patients who fail to give a positive reaction to the cutaneous test.

V. E. Lloyd

**Complement Fixation Studies with Pus Antigen in Granuloma Inguinale.** DULANEY, A. D., and PACKER, H. (1947). *Proc. Soc. exp. Biol., N.Y.*, 65, 254.

A woman with granuloma inguinale of the cervix developed a large abscess of the hand, the pus from which contained numerous Donovan bodies and no other organism. Her blood serum was negative in tests for lymphogranuloma venereum and the Frei test was also negative. An antigen was made at the University of Tennessee College of Medicine, Memphis, U.S.A., by diluting the pus 1 in 6 with normal saline, shaking and heating at 60° C. for 1 hour on 2 successive days, and adding 1 in 10,000 "merthiolate"; culture tests for sterility showed no growth. In complement-fixation tests with this antigen and the sera of 25 patients with granuloma inguinale 21 were positive, 19 being strongly positive; control tests in 14 hospital patients with various non-venereal diseases and in 5 healthy persons were negative. Tests in 12 syphilitic patients gave 4 positive results, but these were regarded as evidence of infection with granuloma inguinale as well as with syphilis and not as cross-reactions, though the patients showed no clinical signs of granuloma inguinale. Six of 13 patients with granuloma inguinale gave positive complement-fixation reactions for lymphogranuloma venereum, and these were likewise regarded as cases of double infection. The test was highly sensitive, but such sources of pus are rarely available.

J. F. Corson

**Study of a New Species of Anaerobic *Neisseria* Isolated from a Case of Vulvo-vaginitis. *N. vulvo-vaginitis*.**

(Étude d'une nouvelle espèce de *Neisseria* anaérobie isolée d'une vulvovaginite: *N. vulvo-vaginitis*).

REYNES, V. (1947). *Ann. Inst. Pasteur*, **73**, 601.

A new anaerobic form of *Neisseria* was found in association with *Streptococcus lanceolatus* in the pus from a case of vulvovaginitis in a 5-year-old girl. The morphology, physiology, and cultural and biochemical characteristics of the organism are described. On morphological grounds the organism should be classified in the same group with three known anaerobic species: *N. reniformis*, *N. orbiculata*, and *N. discoides*. It differs from the above three species in its ability to digest milk and liquefy gelatin. The new species was provisionally named *Neisseria vulvo-vaginitis*. H. P. Fox

**Treatment of *Trichomonas vaginalis* Vaginitis. REICH, W. J., BUTTON, H. L., and NECHTOW, M. J. (1947). *Surg. Gynec. Obstet.*, **84**, 891.**

The authors examined 2,080 patients for evidence of *Trichomonas vaginalis* infection and found it in 541. They were able to study 205 of these, and 153 were under observation long enough to permit of a complete "follow-up" report. Common symptoms of infection were pruritus, and frequency and urgency of micturition. Less common were dyspareunia and vaginal spasm. Both Skene's tubules and Bartholin's glands were infected in 50% of the heavily infected patients, and in 5% of acute cases there was evidence of induration of the utero-sacral ligament. The diagnosis was confirmed by examination of hanging-drop preparations made from the vaginal secretion frequently with study of an additional wet smear and Gram-staining. In recurrent cases with bladder symptoms a hanging-drop preparation was made from a catheter specimen of residual urine.

Treatment consisted of electrofulguration of Skene's ducts, cauterization of erosions, and removal of polypi. The vagina was then dried and insufflated with 2 to 4 g. of a powder consisting of 20% pulverized "argyrol", 40% kaolin, and 40%  $\beta$ -lactose. The danger of air embolism is emphasized, and the use of a Graves type of speculum is advised to reduce this risk. Six capsules each containing 4 g. of the argyrol powder mixture were provided, with instructions to insert one each night after a douche of vinegar water (4 tablespoonfuls of white vinegar to 2 quarts (2.3 litres) of warm water). Precautions necessary after micturition and defecation and during intercourse were explained. Treatment was not interrupted during a period. A week later the patient was re-examined, and in the absence of recurrence the above routine was continued for 3 to 4 weeks. If there was a recurrence of infection the treatment was continued for 5 to 7 weeks. No ill effects were observed from this treatment, and 98% of the patients who were followed up were cured. These results were better than those obtained by the authors with any other form of treatment.

J. Stallworthy

**Relapsing Fever in Cullinan (Transvaal), with a Short Reference to Penicillin Therapy. MERSKEY, C. (1947). *Clin. Proc.*, **6**, 113.**

The 41 cases of tick-borne relapsing fever described differed little clinically from the classical picture. They were for the most part very mild and no deaths occurred. The pyrexial period lasted usually for 2 to 3 days, and the average interval between relapses was 7 days. Two cases had a meningeal reaction. Acute hepatitis occurred in

3 cases, and the difficulty in diagnosis from amebic hepatitis is pointed out. The importance of an adequate follow-up period in the assessment of therapy is stressed. The effects of different forms of therapy were compared. Three of the more severe cases were treated with penicillin, 2 receiving 20,000 units intramuscularly 3-hourly to a total of 500,000 units, the third receiving 40,000 units 3-hourly to a total of 900,000 units. Only 1 case, treated with the smaller dosage, seemed to be cured. It is suggested on experimental grounds that better results may be achieved by the use of doses up to 1 million units 3-hourly. Serial blood films taken during relapse showed the presence of spirochaetes, which appeared normal up to 30 hours but became difficult to demonstrate thereafter, these results being the same after 0.75 g. neoarsphenamine or after penicillin therapy, or in the absence of specific therapy. A control group of 7 untreated cases was observed. If the initial pyrexia is regarded as a relapse, 4 cases had 1 relapse, 2 had 2 relapses, and 1 case had at least 6 relapses. In a further 6 cases, in which neoarsphenamine was given only after several relapses, there was no further relapse after treatment in 5, and 1 only in 1 case. These results may have been obtained without specific treatment. Of 14 cases given 0.75 g. neoarsphenamine intravenously, with a second dose on the seventh day in some cases and a third on the fourteenth day in others, 8 did not relapse. This "cure" rate of 60% compares unfavourably with the controls. No relapses occurred between doses. In a series of 4 cases neoarsphenamine was given on the first or second relapse, and a second dose on a subsequent relapse. "Cure" resulted in 3 cases. Two series of cases received "mapharside": (a) In 4 of 8 cases given 0.04 g. 7 days after the last bout of pyrexia and on subsequent days, the average duration of treatment being 4 days, no relapse occurred. (b) Of 4 cases given mapharside in similar dosage, the first dose being given at the height of the pyrexia, 1 only showed no relapse. The tendency to spontaneous cure was marked. No significant difference was noted in the therapeutic effects of the drugs used. Arsenic appeared to be of little value no matter at what stage of the disease it was administered. J. L. Markson

**Results of *Treponema carateum* Inoculations in Yaws Patients. (Resultados da inoculação do *Treponema carateum* em boubáticos.) PADILHA GONÇALVES, A. (1947). *Hospital, Rio de J.*, **31**, 35.**

The purpose of this research was to elucidate any possible relationship between the morphologically identical organisms causing syphilis, yaws, and pinta. Data were already available showing the apparent absence of cross-immunity between pinta and syphilis, following the discovery of *T. carateum* in pinta lesions in 1938. The present investigation was concerned with the question of cross-immunity between pinta and yaws. The author observed the result of inoculating *T. carateum* into yaws cases, but his investigation was limited by the rarity of both pinta and yaws in Rio de Janeiro. The same technique of inoculation was followed in all the 6 cases of yaws subjected to the experiment. Serous exudate expressed from pinta lesions was aspirated with a tuberculin syringe rinsed in sterile 3% sodium citrate solution. The presence of *T. carateum* was confirmed by dark-ground examination, and a few drops of the serum were injected intradermally into the yaws patients at one or two sites while some was introduced by scarification of the skin in one or two other areas. Controls were carried out by the same technique, with normal

saline in place of the serum. All the yaws patients had skin lesions in which *T. pertenue* was demonstrated before the first inoculation, but some were inoculated again much later when their yaws infection was quiescent. All cases had a positive blood Wassermann reaction at the time of inoculation, and in some the Kahn and Kline reactions were also investigated and were found positive. Past or present syphilis was excluded. A table summarizes the results of the experiment. Cases were kept under observation for periods of 20 days (1 case) to 4 months. Including second injections a total of 9 were given, and 7 of these gave negative results. Two results were positive on the thirty-second and thirty-fifth days (the normal incubation period for pinta is 20 days). All controls remained negative. One of the positive cases was in a yaws patient of 2 months' standing, while in the other the infection was quiescent, having been acquired 3 years previously. In both positive cases *T. carateum* was present in the lesions, which developed unusually slowly. These skin lesions are shown in photographs.

The absence of an absolute immunity to pinta in cases of yaws is thus demonstrated, but, in view of the prolonged incubation period and the gradual evolution of the characteristic pinta lesion, it is evident that a partial immunity exists. The author favours the view that the organisms causing syphilis, yaws, and pinta do in fact produce a partial immunity to each other. In conclusion he refers to the healing effect of vanadium, which was used in treating a case of pinta.

J. J. Keevil

**Pinta in Brazil.** (La pinta en el Brasil.) SILVA, J. RAMOSE (1946). *Bol. Soc. cubana Derm. Sif.*, 3, 159.

**On the Experimental transmission of Pinta.** (Sobre la trasmision de pinta experimental a frambesicos (resultado en nueve casos).) GONCALVES, A. P. (1946). *Bol. Soc. cubana Derm. Sif.*, 3, 169.

**Pinta, Mal del Pinto, or Carate in Brazil.** (La pinta, mal del Pinto, o carate en el Brasil.) BLANCO, F. L. (1946). *Bol. Soc. cubana Derm. Sif.*, 3, 184.

These papers, published simultaneously, give a clear picture of the third treponemal disease, called pinta, carate, or purú-purú. This affection is endemic among certain Indian tribes of the Amazon region, and sporadic cases occur in Brazil, Colombia, Mexico, and Cuba. It is caused by *Treponema carateum*, called also *T. herrefoni*, found in the lesions and the adjacent lymph nodes. The Wassermann reaction is positive in affected subjects. Its clinical manifestations assume the aspect of dyschromatic changes of the skin of the limbs, with a slight marginal inflammation, and palmo-plantar hyperkeratosis and atrophy. Silva describes a case, in which the changes affected the limbs and the trunk and where also juxta-articular nodular fibrous formations were observed. Dyschromia appears in the form of clear areas alternating with deeply pigmented patches. Since such modifications are also observed in the late stages of syphilis and of yaws, pinta is frequently confused with

either of these diseases, the positive Wassermann reaction adding to the confusion. Blanco produced an experimental lesion of pinta on himself and also succeeded in provoking this disease by inoculating three syphilitic subjects. Goncalves transmitted *Treponema carateum* experimentally to 9 subjects suffering from yaws. Two developed a characteristic pinta lesion at the site of inoculation, but 7 others remained unaffected. Salts of vanadium cured the experimental lesions. As these authors' experience proves, it is much easier to reproduce pinta experimentally in healthy subjects than in patients with the other two treponemal infections. It can be assumed, therefore, that the latter develop a partial immunity. Silva advances an attractive but unsubstantiated theory that the three treponemata—*pallidum*, *pertenue*, and *carateum*—derive from a common prehistoric American stem.

A. Lilker

## PUBLIC HEALTH

**Psychiatric and Allied Aspects of the Problem of Venereal Disease in the Army.** With Particular Reference to S.E.A.C. RATCLIFFE, T. A. (1947). *J.R. Army med. Cps.*, 89, 122.

In the South East Asia Command, after the close of the Japanese war, the venereal diseases rate was 140 (in one unit 1,621) per 1,000 per annum. A psychiatric survey by questionnaire and interview was made in various centres with reference to infected and non-infected British and Indian soldiers. The total length of service seemed unimportant, but the incidence was highest during periods of home-sickness, after 3 years overseas, and during long spells of waiting in transit camps. Men engaged in unskilled labour also seemed more prone.

Normal personality factors were found in 32% of British and 24% of Indians with venereal disease, and in 35% of controls. Other groups—classified as inadequate, immature, over-conscientious, aggressive, socially mal-adjusted, and schizoid types—showed no striking differences, though 7% of constitutional psychopaths of anti-social types were found in the British infected and none in the other two groups. Very few men attributed their exposure to a single motive; homesickness, boredom, and alcohol were responsible for a number of cases.

In Batavia compulsory treatment of infected women led to a marked initial but unsustained fall in the incidence of venereal diseases. A good prophylactic room was, however, regarded as a useful measure if there was no publicity for its users. Where a prophylactic room was used there was only 1 infection in 1,350 exposures. Prevention of venereal disease is regarded as a problem of morale rather than of medicine, and it is noted that a high morale is reflected by a low sick rate, an empty guard-room, and little venereal disease. The value of suitable educational and recreational facilities to maintain this is stressed.

[It might be more profitable to discover why men do not contract venereal disease rather than the reverse.]

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